SAFETY DATA SHEET

SECTION 1 – Products and Suppliers

SDS: Stopyt Regular (05-2016)

1.1	**Product Identifier:**	Morgan Advanced Materials/Wesgo Metals® Stopyt Product: Regular
1.2	**Product Use:**	Stopyt products are used as a barrier to the flow of molten metal alloys during brazing (soldering) processes to protect holes and non-braze areas from coverage and clogging.
	Uses Advised Against:	None.
1.3	**Details of the Supplier of the Substance or Mixture Manufacturer:**	Morgan Advanced Materials - Wesgo Metals® 2425 Whipple Road Hayward, California 94544 USA mtchayward.msds@morganplc.com
1.4	**Suppliers and emergency contact information:**	**Emergency Contact Number:** +1-510-491-1100 0800-1700hrs local time, Mon-Fri Language: English
	SDS Date:	17 May 2016. Replaces previous version (SDS: Stopyt 62A) dated 26 Jan 2016.

SECTION 2 – Hazard Identification

2.1 Classification

According to the Globally Harmonized System of Classification and Labeling, the US OSHA Hazard Communication Standard and the Regulation (EC) No 1272/2008 [CLP])

Toxic to reproduction, Category 1B	H360	due to the presence of di(2-ethylhexyl) phthalate
Specific target organ toxicity/single exposure, Category 3	H335 H336	due to the presence of methyl isobutyl ketone
Highly flammable liquid, Category 2	H225	due to the presence of methyl isobutyl ketone and isopropyl alcohol
Eye irritant, Category 2A	H319	due to the presence of methyl isobutyl ketone and isopropyl alcohol
Acute toxicity Category 4	H332	due to the presence of methyl isobutyl ketone

2.2 Signal word, symbols, hazard and precautionary statements:

Danger

Hazard Statements:

H360	May damage fertility or the unborn child.
H335	May cause respiratory irritation.
H336	May cause drowsiness and dizziness.
H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Note: Accompanying alpha-numeric designations included to address EU regulations.

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233 + P241	Keep container tightly closed. Use explosion-proof electrical and ventilation equipment.
P260C	Do not breathe solvent vapors.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280A + P264	Wear protective gloves to prevent skin contact or thermal burns during brazing operations. Wash hands thoroughly after handling.
P280B	Wear ANSI-approved eye protection to prevent eye contact.
P501	Dispose of contents/container in accordance with applicable disposal regulations.
P302 + P352 + P333 + P313	**If on skin:** Wash with plenty of water. **If skin irritation or rash occurs:** Get medical advice/attention.
P304 + P312	**If inhaled:** Call a poison center or doctor if you feel unwell.
P305 + P351 + P338 + P337 + P313	**If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **If eye irritation persists:** Get medical attention.
P308 + P309 + P313	**If exposed, concerned, or feel unwell:** Get medical advice/attention.

SECTION 3 – Hazardous Components

3.1 Mixtures:

Component	Concentration % by weight	CAS Registry No.	EINECS No.
Fused alumina (Aluminum oxide)	50	1344-28-1	215-691-6
Isopropyl alcohol	30-40	67-63-0	200-661-7
Di (2-ethylhexyl) phthalate	<10	117-81-7	204-211-0
Methyl isobutyl ketone	10-50	108-10-1	203-550-1

SECTION 4 – First Aid Measures

4.1 Description of first aid measures

If exposed or concerned, seek medical advice/attention. Show this Safety Data Sheet to the attending physician.

Inhalation: Remove affected personnel to an exposure-free environment. If experiencing respiratory symptoms: Call a poison center or doctor if you feel unwell.

Skin contact: Remove contaminated clothing. Rinse skin with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If necessary call a specialist.

Ingestion: Immediately call a poison control center or doctor.

4.2 Most important symptoms and effects, both acute and delayed

Vapors from this mixture are irritating to the eyes, skin and the respiratory system. Eye irritation signs and symptoms may include redness and pain. Skin irritation signs and symptoms may include dry skin, redness and pain. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. Swallowing the liquid may cause aspiration to the lungs with risk of chemical pneumonitis. If material enters the lungs, signs and symptoms may include coughing, choking, wheezing, difficulty breathing, chest congestion, and shortness of breath. The onset of respiratory symptoms may be delayed for several hours after exposure. Breathing of high vapor concentrations may cause central nervous system depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in narcosis.

4.3 Indication of any immediate medical attention and special treatment needed

Immediate first aid measures are appropriate only in cases of acute exposure to high concentrations of vapors and fumes.

SECTION 5 – Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media:

Use dry chemical or carbon dioxide.

Unsuitable extinguishing media:

Do not use water on a metal fire.

5.2 Special hazards arising from the substance or mixture

Combustion hazards:

Stopyt® products are used in metal brazing operations and brazing flames can ignite combustible materials located nearby. Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, smoking, electric motors, static discharge or other ignition sources at locations distant from material handling point.

5.3 Advice for firefighters

Special fire-fighting procedures:

Fire fighters should wear fire-fighting protective equipment and a full-face self-contained breathing apparatus.

Unusual fire and explosion hazards:

Contact with strong oxidizers may cause fire or explosion.

SECTION 6 – Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Eliminate all sources of ignition such as flares, flames (including pilot lights) and electrical sparks.

6.2 Environmental precautions:

Use controls to minimize the risk of release to the environment.

6.3 Methods and material for containment and cleaning up:

Absorb with vermiculite or other absorbent material and place in sealable containers. Dispose in accordance with international, federal, national, state, and local waste disposal regulations.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7 – Handling and Storage

7.1 Precautions for safe handling

Provide adequate exhaust ventilation whenever using this material in open containers. When transferring material from one container to another ground and bond containers to prevent sparking from static electricity. Wash exposed skin areas after handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in closed containers in a cool, dry, well-ventilated, fire-resistant area away from oxidizing agents and sources of heat and ignition.

Empty containers could contain residues and could be dangerous. Do not eat or smoke in areas where this material is used or stored.

When not in use, containers should be sealed and stored in a flammable liquids storage cabinet.

7.3 Specific end use(s)

No further relevant information available.

SECTION 8 – Exposure Controls and Personal Protection

8.1 Control parameters

Exposure limits and guidelines:

Component	OSHA PEL 8-Hr TWA	ACGIH TLV 8-Hr TWA
Fused alumina (Aluminum oxide)	15 mg/m^3 (total dust) 5 mg/m^3 (respirable fraction)	10 mg/m^3
Isopropyl alcohol	400 ppm	400 ppm; 500 ppm (C)[Note 1]
Di (2-ethylhexyl) phthalate	5 mg/m^3	5 mg/m^3
Methyl isobutyl ketone	100 ppm	50 ppm 75 ppm (C)[Note 1]

Other jurisdictions may have different exposure limits and control guideline. Users are advised to consult and comply with local regulations where they exist.

[1]C (Ceiling) - the concentration that shall not be exceeded during any part of the work exposure).

8.2 Exposure controls

Recommended Monitoring Procedures:

Isopropyl alcohol and methyl isobutyl ketone: collection on charcoal and analysis by gas chromatography. Di (2-ethylhexyl) Phthalate: collection on filters and analysis by gas chromatography.

Appropriate engineering controls:

Use local exhaust ventilation when handling this material and during brazing operations to minimize concentrations of airborne contaminants.

Personal protective equipment:

Eye/face Protection: Safety goggles recommended.

Skin Protection: Wear protective clothing if needed to avoid skin contact. Contaminated clothing should be removed and laundered before reuse.

Hands: Impervious gloves recommended.

Respiratory Protection: Use approved respiratory protective equipment if exposures cannot be maintained below the advised or regulatory limits.

General hygiene considerations:

Do not eat, drink or smoke when handling these products. Wash hands after handling these products.

Limitation and supervision of exposure into the environment

The legal issue values and limitations are to be paid attention!

SECTION 9 – Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Off-white to light pink liquid
Odor Threshold: No data available
Melting/Freezing Point: No data available
Flash Point: 52-54°F (11-12°C)
Lower Flammability Limit: No data available
Upper Flammability Limit: No data available
Vapour Density(Air=1): Greater than 1
Solubility: Partially soluble in water

Auto-ignition Temperature: No data available
Viscosity: ISO 2413, 14 (±3) sec with Sheen 417/4 cup
Oxidizing Properties: None
Molecular Formula: Mixture

Odor: Slight solvent
pH: Not applicable
Boiling Point: Greater than 95°F (35°C)
Evaporation Rate: No data available
Vapour Pressure: No data available

Relative Density: No data available
Octanol/Water Partition Coefficient: No data available
Decomposition Temperature: No data available
Explosive Properties: Vapours may be explosive

Specific Gravity (H_2O= 1): No data available
Molecular Weight: Mixture

9.2 Other information

No further relevant information available.

SECTION 10 – Stability and Reactivity

10.1 Reactivity
Not reactive under normal conditions

10.2 Chemical stability
Stable when stored in closed containers at room temperature under normal storage and handling conditions.

10.3 Possibility of hazardous reactions
May react with strong oxidizers to cause fire or explosions.

10.4 Conditions to avoid:
Avoid heat and all sources of ignitions.

10.5 Incompatible materials:
Strong oxidizing agents.

10.6 Hazardous decomposition products:
Oxides of carbon.

SECTION 11 – Toxicological Information

11.1 Information on toxicological effects

Potential health effects:

Eye contact:	May cause moderate eye irritation, redness, tearing and blurred vision.
Skin contact:	Prolonged or repeated contact with product may cause moderate irritation, de-fatting and dermatitis. Isopropyl Alcohol and MIBK may be absorbed through the skin with possible systemic effects.
Inhalation:	Inhalation of vapours may cause nasal and respiratory tract irritation and central nervous system effects including dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.
Ingestion:	Ingesting isopropyl alcohol or methyl isobutyl ketone may cause nausea, vomiting, bleeding, headache, disorientation, dizziness, kidney damage, and possible unconsciousness. Di(2-ethylhexyl) Phthalate ingestion may cause gastrointestinal upsets.
Acute toxicity:	Di (2-ethylhexyl) Phthalate: Inhalation LC50 4 Hr >10,620 mg/m^3 Isopropyl alcohol: Inhalation LC50 6 Hr >10,000 mg/m^3 Yttrium oxide: Inhalation data not available

Skin corrosion/irritation: No additional data available for product.

Eye damage/irritation: No additional data available for product.

Respiratory irritation: No additional data available for product.

Skin sensitization: No additional data available for product.

Germ cell mutagenicity: No additional data available for product.

Carcinogenicity: No additional data available for product.

Reproductive toxicity: Animal tests show that Di (2-ethylhexyl) Phthalate possibly causes toxicity to human reproduction or development.

Specific target organ toxicity:

Single exposure: No data available.

Repeat exposure: Prolonged exposure to methyl isobutyl ketone can cause central nervous depression, possible liver and kidney damage.

Additional toxicological information may be available through the U.S. National Institute for Occupational Safety and Health (NIOSH) and the Registry of Toxic Effects of Chemical Substances (RTECS) See website: http://www.cdc.gov/niosh/ipcsneng/nengrtec.html. Applicable product components and their respective RTECS numbers are as follows:

Aluminum oxide	BD1200000	Isopropyl alcohol	NT8050000
Di (2-ethylhexyl) Phthalate	TI0350000	Methyl Isobutyl Ketone (MIBK)	SA9275000

SECTION 12 – Ecological Information

12.1 Toxicity

Methyl isobutyl ketone: LC50 Pimephales promelas (fathead minnow) 505 mg/L 96; EC50: Daphnia magna 3682 mg/L/24 hr; ErC50 Selenastrum capricornutum (Green algae) 400 mg/L/96 hr;

Isopropanol: LC50 fathead minnows 11,130 mg/L/48 hr; LC50 brown shrimp 1400 mg/L/48 hr

Di (2-ethylhexyl) Phthalate: LC50 Oncorhynchus mykiss >19.5 mg/L/96 hr. ErC50 Algae (selenastrum capricornutum) >0.1 mg/L/96 hr EC50 daphnia magna >100 mg/L/48 hr.

12.2 Persistence and degradability:

Methyl isobutyl ketone: Readily biodegradable

Isopropanol: Readily biodegradable

Di (2-ethylhexyl) Phthalate: Readily biodegradable

12.3 Bio-accumulative potential:

Methyl isobutyl ketone has an estimated BCF of 2 and isopropanol has an estimated BCF of 3 suggesting that

the potential for bioaccumulation is low. Experimental data indicate that Di (2-ethylhexyl) Phthalate may bio-accumulate.

12.4 Mobility in soil:
When released into soil and water, isopropanol and methyl isobutyl ketone may evaporate to a moderate extent.

12.5 Results of PVT or vPvB assessment:
None required.

12.6 Other adverse effects:
None known.

SECTION 13 – Disposal Considerations

13.1 Waste treatment methods
This material may be subject to US EPA RCRA hazardous waste disposal regulations due to the characteristic of ignitability. Waste materials should be profiled and managed in accordance with applicable federal, state and local regulations.

Regulatory Authority	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT	UN1993	Flammable liquids, n.o.s. (methyl isobutyl ketone, isopropanol)	3	II	
IATA/ICAO	UN1993	Flammable liquids, n.o.s. (methyl isobutyl ketone, isopropanol)	3	II	

Special precautions for user
See Section 6 – 8.

SECTION 15 – Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- All product ingredients are listed on the U.S. Toxic Substances Control Act (TSCA) chemical inventory.
- Di (2-ethylhexyl) Phthalate and methyl isobutyl ketone are subject to the reporting requirements of Section 313 of Title III of the U.S. Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
- Methyl isobutyl ketone and Di (2-ethylhexyl) Phthalate are listed on the U.S. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as hazardous substances.
- This product contains the following chemicals which are listed on the list of “Chemicals known to the State of California to cause cancer or reproductive toxicity:”

Di(2-ethylhexyl) Phthalate	117-81-7	<10%
Methyl isobutyl ketone	108-10-1	10-50%

SECTION 16 – Other Information

Revision Summary: 15 April 2015: SDS revised to comply with US OSHA Hazard Communication Standard and GHS requirements and to remove Stopyt RG and 62G from products covered by the previous version.
26 Jan 2016: Alpha-numeric designations added to Section 2 hazard statements.
17 May 2016: SDS enhanced to comply with Regulation (EC) No 1272/2008 [CLP].

Reasonable care has been taken in the preparation of information contained in this Safety Data Sheet and the information is provided in good faith. Information provided in this Safety Data Sheet has been prepared by competent and appropriately qualified and trained persons according to the US OSHA Hazard Communication Standard. Morgan Advanced Materials - Wesgo Metals® assumes no responsibility as to the accuracy of information drawn from other sources. No warranty, expressed or implied, is made.

Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
BCF	Bio concentration factor
CAS	Chemical Abstracts Service (division of the American Chemical Society)
EINECS	European Inventory of Existing Commercial Chemical Substances
NIOSH	National Institute of Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PEL	Permissible exposure limit
RCRA	Resource Conservation and Recovery Act
TLV	Threshold Limit Values
TWA	Time-weighted Average

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