— Section 1 —
Product Identification

Material Safety Data Sheet

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CROSSFIRE® School Bus Yellow Intermix System

CF-48/N

CAS No.	— Section 2 — Hazardous Ingredients (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	LD50 (Rat-Oral) mg/kg	LC50 (Rat) ppm/4hr	Vapor Pressure mm	48-LF All Colors	CH253 High Solid Hardener
108-88-3 §	Toluene	50	100 <150>	ppm (skin)	5000	4000	22.0	0.5 - 2	
100-41-4 §	Ethylbenzene	100 <125>	100 <125>	ppm	3500	NAv	7.1	0.5 - 1	
1330-20-7 §	Xylene	100 <150>	100 <150>	ppm	4300	5000	5.9	4 - 7	
98-56-6	p-Chlorobenzotrifluoride	NAv	NAv		NAv	NAv	5.3	10 - 16	5
67-64-1	Acetone	500 <750>	1000	ppm	5800	NAv	180.0	8 - 10	
107-87-9	Methyl n-Propyl Ketone	200 <250>	200 <250>	ppm	1600	NAv	27.8	2	
123-86-4	n-Butyl Acetate	150 <200>	150 <200>	ppm	13100	2000	10.0	10 - 15	
112-07-2 §	2-Butoxyethyl Acetate	NAv	NAv		2400	NAv	1.0	0.4 - 1	
94-96-2	2-Ethyl-1,3-hexanediol	NAv	NAv		1400	NAv		3	
822-06-0	Hexamethylene Diisocyanate	0.005		ppm	738	NAv	0.05		0.2
28182-81-2	Hexamethylene Diisocyanate Polymer	0.5 C 1		Mg/M3 Supplier Limit	NAv	NAv			95
13463-67-7	Titanium Dioxide	10	10[5]	mg/m3 as Dust [Resp. Fraction]	NAv	NAv		0 - 10	
1333-86-4	Carbon Black	3.5	3.5	mg/m3	NAv	NAv		0 - 1	
	Vanadium [% Vanadium]							max 8 [1.3]	
	Weight per Gallon (lbs.)							9 - 10	9.67
	VOC (Volatile Organic Compounds) Emitted - lbs./gal.							2.1 - 2.6	
	VOC Less Water & Federally Exempt Solvents - lbs./gal.							2.9 - 3.3	
	Photochemically Reactive							Yes	No
	Flash Point (°F)							5 - 15	135
	DOL Storage Category							1B	2
	Flammability Classification (Flammable - Combustible)							Flammable	Combustible
	HMIS (NFPA) Rating (health - flammability - reactivity)							2* - 3 - 0	3* - 2 - 1

PERCENT BY WEIGHT

§ Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

➔➔➔ *MSDS Text Page Follows* ➔➔➔

Section 3 — Hazards Identification

ROUTES OF EXPOSURE -
INHALATION of vapor or spray mist. EYE or SKIN contact with the product, vapor or spray mist.
EFFECTS OF OVEREXPOSURE - EYES: Irritation. SKIN: Prolonged or repeated exposure may cause irritation. INHALATION: Irritation of the upper respiratory system.
May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
SIGNS AND SYMPTOMS OF OVEREXPOSURE - Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists. Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE - Hardener may cause allergic respiratory and/or skin reaction in susceptible persons or sensitization. This effect may be delayed several hours after exposure.
CANCER INFORMATION - For complete discussion of toxicology data refer to Section 11.

Section 4 — First Aid Measures

EYES:	Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN:	Wash affected area thoroughly with soap and water. Remove contaminated clothing & launder before re-use.
INHALATION:	If any breathing problems occur during use, LEAVE THE AREA and get fresh air. If problems remain or occur later, IMMEDIATELY get medical attention.
INGESTION:	Do not induce vomiting. Get medical attention immediately.

Section 5 — Fire Fighting Measures

FLASH POINT	*LEL*	*UEL*
See TABLE	0.5	12.8

FLAMMABILITY CLASSIFICATION - See TABLE
EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS - Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES - Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up & possible autoignition or explosion when exposed to extreme heat.

Section 6 — Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED - Remove all sources of ignition. Ventilate the area.
For COLORS: Remove with inert absorbent.
For HARDENER: All personnel in the area should be protected as in Section 8. Cover spill with absorbent material. Deactivate spilled material with a 10% ammonium hydroxide solution (household ammonia). After 10 minutes, collect in open containers and add more ammonia. Cover loosely. Wash spill area with soap and water.

Section 7 — Handling and Storage

STORAGE CATEGORY - See TABLE
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING - Keep away from heat, sparks, and open flame. During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition. Consult NFPA Code. Use approved Bonding and Grounding procedures. Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Section 8 — Exposure Controls/Personal Protection

PRECAUTIONS TO BE TAKEN IN USE
NO PERSON SHOULD USE THESE PRODUCTS, OR BE IN THE AREA WHERE THESE PRODUCTS ARE BEING USED, IF THEY HAVE CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATES.
Use only with adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapor and spray mist. Wash hands after using.
These coatings may contain materials classified as nuisance particulates (listed “as Dust” in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m3 (total dust), 3 mg/m3 (respirable fraction), OSHA PEL 15 mg/m3 (total dust), 5 mg/m3 (respirable fraction).
VENTILATION - Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94,1910.107, 1910.108.
RESPIRATORY PROTECTION - Where overspray is present, a positive pressure air supplied respirator (TC19C NIOSH/MSHA approved) should be worn. If unavailable, a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2 may be effective. Follow respirator manufacturer's directions for use. Wear the respirator for the whole time of spraying and until all vapors and mists are gone. NO PERSONS SHOULD BE ALLOWED IN THE AREA WHERE THESE PRODUCTS ARE BEING USED UNLESS EQUIPPED WITH THE SAME RESPIRATOR PROTECTION RECOMMENDED FOR THE PAINTERS.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES - Wear gloves recommended by glove supplier for protection against materials in Section 2.
EYE PROTECTION - Wear safety spectacles with unperforated sideshields.
OTHER PROTECTION - Use barrier cream on exposed skin.
These products must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.
Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 — Physical and Chemical Properties

PRODUCT WEIGHT	See TABLE	EVAPORATION RATE	Slower than ether
SPECIFIC GRAVITY	1.08 - 1.20	VAPOR DENSITY	Heavier than air
BOILING POINT	132 - 384 °F	MELTING POINT	Not Available
VOLATILE VOLUME	4 - 57 %	SOLUBILITY IN WATER	Not Available

Section 10 — Stability and Reactivity

STABILITY - Stable
CONDITIONS TO AVOID - None known.
INCOMPATIBILITY - None known.
HAZARDOUS DECOMPOSITION PRODUCTS - By fire: Carbon Monoxide & Dioxide, Oxides of Metals in Section 2
HAZARDOUS POLYMERIZATION - Will not occur

Section 11 — Toxicological Information

CHRONIC HEALTH HAZARDS -
Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.
Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is insufficient evidence in humans for its carcinogenicity.
Persons sensitive to isocyanates will experience increased allergic reaction on repeated exposure.
Prolonged overexposure to solvent ingredients may cause adverse effects to the liver, urinary, blood forming, cardiovascular, and reproductive systems.
2-Ethyl-1,3-hexanediol is considered an animal teratogen. It has been shown to cause birth defects and reproductive disorders in laboratory animals. There is no evidence to indicate it causes birth defects in humans.
Rats exposed to titanium dioxide dust at 250 mg/m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section 12 — Ecological Information

No data available.

Section 13 — Disposal Considerations

WASTE DISPOSAL METHOD - Waste from these products may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Section 14 — Transport Information

No data available.

Section 15 — Regulatory Information

CALIFORNIA PROPOSITION 65 - WARNING: These products, except CF253 Hardener, contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
TSCA CERTIFICATION - All chemicals are listed, or are exempt from listing, on the TSCA Inventory.

Section 16 — Other Information

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.