MATERIAL SAFETY DATA SHEET

AEROSOL CLEANERS–SOLVENT BASED (Methylene Chloride Free AK-B)

1/2/07

PRODUCTS COVERED: AA-S, AB-K, AC-C, AC-J, AE-C, AG-D, AH-S, AI-C, AK-B, AM-J, AN-C, AR-A, AS-DEC, AS-X

SECTION I–MANUFACTURER

Crest Industries, Inc., 1337 King Road, Trenton, MI 48183 **Phone:** (734) 479-4141 **FAX:** (734) 479-4040

24 HOUR EMERGENCY TELEPHONE (CHEMTEL): (800) 255-3924 **INTERNATIONAL CALLS:** (813) 248-0585

SECTION II–PRODUCTS

Stock Number	Product Name on Label	Hazardous Ingredients in Products*	HMIS RATING H	F	R	Appearance and Odor
AA-S	Acry-Solv Solvent Cleaner	3,11,22,24,25	2	4	0	Clear liquid, mild solvent
AB-K	Brake Kleaner	5,19,22	3*	0	0	Clear liquid, mild solvent
AC-C	Muscle Carb & Choke Cleaner	1,11,21,23,25	3	4	0	Clear Liquid, strong solvent
AC-J	Jet Blast Choke & Carb Cleaner	1,11,21,23,25	3	4	0	Clear Liquid, strong solvent
AE-C	Electrical Contact Cleaner	5,8,16	2	0	0	Clear liquid, mild solvent
AG-D	Paint, Gasket & Decal Stripper	3,13,18,19,21	3*	2	0	Clear gel, mild solvent
AH-S	Hi-Solv Super Strength Solvent Cleaner	3,11,16,21,24,25	3	4	0	Clear Liquid, strong solvent
AI-C	Fuel Injection Air Intake Cleaner	1,11,17,25	3	4	0	Clear Liquid, strong solvent
AK-B	Brake Kleaner	5,22	3*	0	0	Clear liquid, mild solvent
AM-J	Muscle "Junior" Carb & Choke Cleaner	1,11,21,23,25	3	4	0	Clear Liquid, strong solvent
AN-C	Non Chlorinated Brake Kleaner	1,11,21,23,25	3	4	0	Clear Liquid, strong solvent
AR-A	Release All Spray Solvent	15,16,17	3	4	0	Clear Liquid, mild solvent
AS-DEC	Supreme Cleaner and Degreaser	2,4,9,17	2	2	0	Milky liquid, citrus
AS-X	Super-Solv Extra Strength Solvent Cleaner	3,11,16,21,24,25	3	4	0	Clear Liquid, strong solvent

*Chronic health effects may occur from ingredients 12, 19 and 22. See Notes in SECTION VI.

Stock Number	Product Name on Label	Solubility in Water Weight %	Volatile Volume %
AA-S	Acry-Solv Solvent Cleaner	<1	100
AB-K	Brake Kleaner	<1	100
AC-C	Muscle Carb & Choke Cleaner	55	100
AC-J	Jet Blast Choke & Carb Cleaner	55	100
AE-C	Electrical Contact Cleaner	5 to 15	100
AG-D	Paint, Gasket & Decal Stripper	5 to 10	90 to 95
AH-S	Hi-Solv Super Strength Solvent	5 to 15	100
AI-C	Fuel Injection Air Intake Cleaner	5 to 10	100
AK-B	Brake Kleaner	<1	100
AM-J	Muscle "Junior" Carb & Choke Cleaner	55	100
AN-C	Non-Chlorinated Brake Kleaner	55	100
AR-A	Release All Spray Solvent	35 to 45	100
AS-DEC	Supreme Cleaner and Degreaser	55 to 65	55 to 60
AS-X	Super-Solv Extra Strength Solvent Cleaner	15 to 25	100

SECTION III–HAZARDOUS INGREDIENTS

Ingredients	CAS Number	Exposure Limits* in ppm (parts per million)	Flash Point °F	°C	Vapor Pressure (mm Hg @ 20°C)	Evap. Rate (n-Butyl Acetate=1)	Boiling Point °F	°C	Flammable Limits in % Low'r	Upp'r	Autoignition Point °F	°C
1. Acetone	67-64-1	750 A, O	4	-20	185	7.7	132	56	2.6	12.8	869	465
2. 2-Amino Ethanol	141-43-5	3 A, O	185	85	0.48	>1	338	170	-NA-		770	410
3. Butane (n-Butane)	106-97-8	1000 A, 800 N	<-40		>1500	114	31	-1	1.8	8.4	860	460
4. 2-Butoxyethanol	111-76-2	25 A, O Skin	165	74	0.9	0.1	340	171	-NA-		Unknown	
5. Carbon Dioxide	124-38-9	5000 A, 10000 O	None		NA	NA	-NA-		-None-		-None-	
6. Cyclohexane	110-82-7	300 A, O	-7	-22	95	6.1	177	81	1.3	8.3	473	245
7. Diacetone Alcohol	123-42-2	50 A	146	63	1.0	0.14	295	146	1.8	6.9	Unknown	
8. 1,1-Dichloro-1-Fluoroethane	1717-00-6	1000 A, O	None		592@25°C	Unknown	90	32	Unknown		Unknown	
9. D-Limonene	5989-27-5	NE	115	46	2	<0.1	310	154	0.7	6.1	Unknown	
10. Ethanol (Ethyl Alcohol)	64-17-5	1000 A, O	54	12	44	1.9	165	74	3.3	19.0	685	363
11. Ethyl Benzene	100-41-4	100 A, O	59	15	7	0.5	277	136	1.0	6.7	810	432
12. Hexane (n-Hexane)**	110-54-3	50 A, O**	-10	-23	190@21°C	8.1	152	67	1.2	7.7	437	225
13. Isobutane	75-28-5	1000 A, 800 N	<-40		>760	Unknown	11	-12	1.8	8.4	860	460
14. Isohexane Isomers	107-83-5	500 A, O	-23	-9	212@25°C	16.2	138	59	1.2	7.0	583	306
15. Isoparaffinic Hydrocarbon	64742-48-9	100 A	104	40	<10	0.3	313	156	0.7	7.0	559	293
16. Isopropyl Alcohol	67-63-0	400 A, O	53	12	31	1.7	180	82	2.0	12.0	750	399
17. Liquid Petroleum Gas	68476-86-8	1000 A, O	<-40		>760	Unknown	-44	-42	2.1	9.5	842	450
18. Methanol (Methyl Alcohol)	67-56-1	200 A, O Skin	54	12	96	3.5	147	64	6.7	36.0	725	385
19. Methylene Chloride**	75-09-2	50 A, 500 O**	None		340	14.5	104	40	-None-		1224	662
20. Methyl Ethyl Ketone	78-93-3	200 A, O	16	-9	85	4.6	174	79	1.8	10.0	759	404
21. Propane	74-98-6	1000 A, O	<-40		>760	Unknown	-44	-42	2.1	9.5	842	450
22. Tetrachloroethylene**	127-18-4	50 A, 25 O**	None		13	2.1	250	121	-None-		-None-	
23. Toluene	108-88-3	50 A Skin,100 O	45	7	38	1.5	230	110	1.2	7.0	896	480
24. VM&P Naphtha	64742-89-8	400 O	<20	<-7	60	3.9	206	97	1.2	6.8	536	280
25. Xylene	1330-20-7	100 A, O	80	27	10	0.8	281	138	1.0	6.4	810	432

*A means ACGIH TLV, N means NIOSH, O means OSHA PEL. Other abbreviations: > means greater than, < means less than, NA means Not Applicable, NE means Not Established. ****See NOTES in SECTION VI.**

SECTION IV–PHYSICAL DATA

Pressure of Can Contents: Maximum pressure less than 140-PSI GAUGE at 130°F (54°C). **Evaporation Rate:** See SECTIONS II, III **Vapor Density:** Heavier than air. **Solubility in Water (Wt%):** See SECTION II. **Volatile Volume %:** See SECTION II. **Approximate Boiling Point:** See SECTIONS II, III. **Product Density (water=1):** Less than 1. (AB-K, AE-C, AK-B greater than 1).
Ingredients (except 8, 19, 22): Less than 1.
Appearance and Odor: See SECTION II

SECTION V–FIRE AND EXPLOSION DATA

Flammability Class: Extremely Flammable Aerosol: AA-S, AC-C, AC-J, AH-S, AI-C, AM-J, AN-C, AR-A and AS-X.
Flammable Aerosol: AG-D. **Non-Flammable Aerosol:** AB-K, AE-C, AK-B and AS-DEC.
Flash Point (Tag Closed Cup Method): See SECTIONS II, III
Approximate Flammable Limits: See SECTIONS II, III
Autoignition Temperature: See SECTIONS II, III
Extinguishing Media: Foam, carbon dioxide, and dry chemical
Special Fire Fighting Procedures: Full protective equipment, including self-contained breathing apparatus, is recommended because highly toxic gasses may be generated by combustion or thermal decomposition. Water from fog nozzles may be used to cool closed containers to prevent pressure build up (containers may leak or burst when heated).
Unusual Fire and Explosion Hazards: Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, electric motors, smoking or other ignition sources at locations far from material handling point (AB-K, AE-C, AK-B have no flammable vapors). At elevated temperatures [130°F (54°C) or over] containers may vent, rupture or burst.

SECTION VI–HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Inhalation, Skin contact, Eye contact.
SIGNS AND SYMPTOMS OF EXPOSURE:

INHALATION:

Acute Exposure: Solvent vapors at concentrations above the TLV can irritate the respiratory tract (nose, throat, and lungs) causing a burning sensation, runny nose, sore throat, coughing, chest discomfort (tightness). May cause central nervous system depression with the following progressive symptoms: headache, dizziness, nausea, staggering gait, confusion, unconsciousness, and cessation of breathing and death.

Chronic Exposure: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Symptoms include: loss of memory, loss of intellectual ability and loss of coordination.

NOTE: Prolonged and/or repeated overexposure to **11. n-Hexane** (in AN-C) may cause Peripheral Neuropathy (damage to nerve tissue of the arms or legs) resulting in muscular weakness and loss of sensation in some or all of the following: fingers, hands, arms, toes, feet or legs.

NOTE: INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING ANY SOLVENT VAPORS MAY BE HARMFUL OR FATAL!

SKIN CONTACT:

Acute Exposure: Repeated or prolonged skin contact with solvents can result in dry, defatted and cracked skin causing increased susceptibility to infection. Skin irritation may develop into contact dermatitis.

Chronic Exposure: Exposure to small amounts of solvent over long periods of time may cause some or all of the symptoms as in acute exposure to solvents.

EYE CONTACT:

Acute Exposure: Irritation of the eyes with itching, burning, redness and even permanent tissue damage if sprayed directly into the eyes and not flushed out immediately.

Chronic Exposure: Irritation of the eyes with itching, burning, redness.

INGESTION:

Acute Exposure: (Not likely unless deliberately sprayed into mouth.) Irritation to the mouth, and if swallowed, to the esophagus, stomach tissue and digestive tract. If swallowed, vomiting may cause breathing of liquid solvent resulting in chemical pneumonia.

Chronic Exposure: Unknown.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None specifically known to Crest Industries, Inc. but it is possible that eye, respiratory tract, skin, liver, kidney, blood cell formation, nervous system and brain diseases may be aggravated by overexposure to the products on this MSDS.

CARCINOGENICITY: Products not listed by NTP, IARC or OSHA. **NOTE: 19. Methylene Chloride** and **22. Tetrachloroethylene** have caused cancer in certain laboratory animals. Risk to health depends on level and duration of exposure. Be especially careful to minimize breathing the solvent vapors from AB-K, AG-D and AK-B. Use products outdoors, if possible. If you must use indoors, open all windows and doors or use other means to assure fresh air movement during use. If properly used, a respirator (NIOSH/MSHA TC23C or equivalent) may offer additional protection. Get professional advice for respirator use. **A dust mask does not provide protection against vapors!** Clean up rags and other waste immediately and allow solvent vapors to evaporate outdoors. **DO NOT USE IN BASEMENT OR OTHER UNVENTILATED AREA!**

SECTION VII–EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention.

EYE CONTACT: Flush with clean, lukewarm water (low pressure) for at least 15 minutes while lifting eyelids. Refer person to physician for immediate attention.

SKIN CONTACT: Remove contaminated clothing immediately. Clean affected areas thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. Seek medical attention if irritation develops or persists.

INGESTION: DO NOT INDUCE VOMITING! Consult physician, hospital emergency room or poison control center immediately. Have list of ingredients available.

NOTES TO PHYSICIAN:

Inhalation: Treat as for solvent vapor inhalation. Bronchodilators, expectorants and antitussives may help.

Eyes: May cause conjunctivitis. Stain for evidence of corneal injury.

Skin: Treat as any contact dermatitis.

Ingestion: Treat as for solvent ingestion (Except AB-C). Inducing vomiting is contraindicated because of the possibility of chemical pneumonia caused by aspiration of solvent liquid.

SECTION VIII–EMPLOYEE PROTECTION RECOMMENDATIONS

EYE PROTECTION: Desirable during use of aerosol products. Wear safety glasses, splash goggles or face shield. Contact lenses should not be worn.

SKIN PROTECTION: Cover as much of the skin as possible with appropriate clothing. Wear solvent resistant gloves.

VENTILATION AND RESPIRATORY PROTECTION: If ventilation sufficient to keep the airborne vapor concentrations of solvents and propellants below their respective TLV's is not possible, an OSHA/MSHA approved TC23C Respirator or TC19C Air Supplied Respirator must be used. **A dust mask does not provide protection against vapors!** Observe OSHA regulations (29 CFR 1910.134) for respirator use. **NOTE: THERE MUST ALWAYS BE ENOUGH VENTILATION TO KEEP VAPOR CONCENTRATION BELOW THE LOWER FLAMMABLE LIMIT!**

OTHER PROTECTIVE MEASURES: Eyewash stations should be available. Educate and train employees in safe use of products. Follow all label warnings and instructions.

SECTION IX–REACTIVITY DATA

STABILITY: Stable under normal room conditions.
HAZARDOUS POLYMERIZATION: Will not occur.
INCOMPATIBILITY (Materials to Avoid): Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: By high heat and fire: carbon dioxide, carbon monoxide, hydrocarbon vapors, smoke. Hydrogen chloride, chlorine, phosgene and chlorinated hydrocarbon vapors also will be produced from AB-K, AE-C, AG-D and AK-B.

SECTION X–SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Put on protective equipment including respiratory protection. Prevent further spillage. Evacuate nonessential personnel. Remove all sources of ignition (except for AB-K, AK-B) and ventilate the area. Keep spill from reaching sewers and waterways. Cover the spill with sawdust, vermiculite, Fuller's Earth or other absorbent material. Collect material with non-sparking tools (except for AB-K, AK-B which will not ignite) and put in a tightly sealed container. Remove container to a safe place.

WASTE DISPOSAL METHOD: Follow all federal, state and local environmental control regulations. Incineration is the preferred method for the **contents** of containers. **DO NOT INCINERATE (OR BURN) AEROSOL CONTAINERS EVEN WHEN EMPTY!** Containers may become pressurized and burst even if they will not spray. Containers must be handled with care due to toxic, flammable and/or pressure producing residue. **DO NOT PUT AEROSOL CONTAINERS IN A HOME TRASH COMPACTOR!**

RCRA STATUS: Since these products contain ignitable (except AB-K, AK-B which are toxic only) and toxic materials, they are hazardous when discarded.

SECTION XI–SPECIAL PRECAUTIONS AND STORAGE DATA

STORAGE TEMPERATURE:

MINIMUM / MAXIMUM: 50°F (10°C) / 120°F (49°C)

RECOMMENDED SHELF LIFE: One year

PRECAUTIONS TO BE TAKEN IN HANDLING, STORAGE AND USE: Keep away from heat, sparks and open flame. Do not store in temperatures above 120°F (49°C) or in direct sunlight. Do not inhale vapors or spray mist. Avoid contact with skin and eyes. Wash hands after use and before eating, drinking, smoking or using the toilet. Employee education and training in the safe use and handling of these materials are required under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

KEEP OUT OF THE REACH OF CHILDREN!

SECTION XII–ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATORY INFORMATION

The following percentage table is to be used to meet Environmental Protection Agency (EPA) Regulations:

1. 40 CFR Part 370 Emergency and Hazardous Chemical Inventory Forms and Community Right-to-Know Reporting Requirements.
2. Title III Section 313 Toxic Chemical Release Reporting Requirements. **Note:** All the chemicals listed must be considered for 1. above. Only the ones marked with an asterisk (*) fall under 2. **Note:** This page is legally required to be sent with the previous two pages of this MSDS.

HAZARDOUS INGREDIENTS IN AEROSOL CLEANERS–SOLVENT BASED—APPROXIMATE PERCENTAGES BY WEIGHT

		Stock Numbers													
Ingredients (Chemicals)	**CAS Number**	**AAS**	**ABK**	**ACC**	**ACJ**	**AEC**	**AGD**	**AHS**	**AIC**	**AKB**	**AMJ**	**ANC**	**ARA**	**ASDEC**	**ASX**
*1. Acetone	67-64-1	–	–	55	55	–	–	–	08	–	55	55	–	–	–
2. 2-Amino Ethanol	141-43-5	–	–	–	–	–	–	–	–	–	–	–	–	05	–
3. Butane (n-Butane)	106-97-8	01	–	–	–	–	01	01	–	–	–	–	–	–	01
4. 2-Butoxyethanol	111-76-2	–	–	–	–	–	–	–	–	–	–	–	–	15	–
5. Carbon Dioxide	124-38-9	–	03	–	–	04	–	–	–	02	–	–	–	–	–
6. Cyclohexane	110-82-7	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7. Diacetone Alcohol	123-42-2	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8. 1,1-Dichloro-1-Fluoroethane	1717-00-6	–	–	–	–	86	–	–	–	–	–	–	–	–	–
9. D-Limonene	5989-27-5	–	–	–	–	–	–	–	–	–	–	–	–	15	–
10. Ethyl Alcohol (Ethanol)	64-17-5	–	–	–	–	–	–	–	–	–	–	–	–	–	–
*11. Ethyl Benzene	100-41-4	06	–	02	02	–	–	05	14	–	02	02	–	–	05
12. n-Hexane (n-Hexane)	110-54-3	–	–	–	–	–	–	–	–	–	–	–	–	–	–
13. Isobutane (Methylpropane)	75-28-5	–	–	–	–	–	08	–	08	–	–	–	–	–	–
14. Isohexane Isomers	107-83-5	–	–	–	–	–	–	–	–	–	–	–	–	–	–
15. Isoparaffinic Hydrocarbon	64742-48-9	–	–	–	–	–	–	–	–	–	–	–	48	–	–
16. Isopropyl Alcohol (Isopropanol)	67-63-0	–	–	–	–	10	–	10	–	–	–	–	40	–	17
17. Liquid Petroleum Gas	68476-86-8	–	–	–	–	–	–	–	–	–	–	–	12	20	–
*18. Methyl Alcohol (Methanol)	67-56-1	–	–	–	–	–	06	–	–	–	–	–	–	–	–
*19. Methylene Chloride (Dichloromethane)	75-09-2	–	20	–	–	–	72	–	–	–	–	–	–	–	–
*20. Methyl Ethyl Ketone	78-93-3	–	–	–	–	–	–	–	–	–	–	–	–	–	–
21. Propane	74-98-6	12	–	15	15	–	09	12	09	–	15	15	–	–	12
*22. Tetrachloroethylene	127-18-4	–	77	–	–	–	–	–	–	98	–	–	–	–	–
*23. Toluene	108-88-3	–	–	15	15	–	–	–	–	–	15	15	–	–	–
24. VM&P Naphtha	64742-89-8	55	–	–	–	–	–	49	–	–	–	–	–	–	45
*25. Xylene	1330-20-7	26	–	13	13	–	–	23	61	–	13	13	–	–	20
Physical Hazard–Fire		100	–	100	100	10	24	100	99	–	100	100	100	50	100
Physical Hazard–Pressure Release		13	03	15	15	04	18	13	17	02	15	15	12	20	13
Health Hazard–Acute		100	100	100	100	100	96	100	99	100	100	100	100	50	100
Health Hazard–Chronic		–	97	–	–	–	72	–	–	98	–	–	–	–	–
Physical Hazard–Reactivity		None of the Aerosol Cleaners have this hazard													
Aerosol Level		3	1	3	3	1	2	3	3	1	3	3	2	2	3
Stock Numbers		**AAS**	**ABK**	**ACC**	**ACJ**	**AEC**	**AGD**	**AHS**	**AIC**	**AKB**	**AMJ**	**ANC**	**ARA**	**ASDEC**	**ASX**

SECTION XIII–VOLATILE ORGANIC COMPOUND (V. O. C.) CONTENT OF AEROSOL CLEANERS ACCORDING TO THE FEDERAL EPA

Stock Numbers	**AAS**	**ABK**	**ACC**	**ACJ**	**AEC**	**AGD**	**AHS**	**AIC**	**AKB**	**AMJ**	**ANC**	**ARA**	**ASDEC**	**ASX**
Percent by Weight	100	0	45	45	10	24	100	91	0	45	45	100	49	100
Pounds per Gallon	5.94	0	2.80	2.80	0.96	2.89	5.94	5.89	0	2.80	2.80	5.83	3.36	5.94
Grams per Liter	712	0	335	335	115	346	712	706	0	335	335	698	403	712
Pounds per Can	1.08	0	0.429	0.506	0.10	0.27	1.08	0.682	0	0.429	0.429	0.75	0.515	1.08

SECTION XIV–CALIFORNIA PROPOSITION 65 WARNINGS

According to the California Safe Drinking Water and Toxic Enforcement Act (PROPOSITION 65) "No person in the course of doing business shall knowingly and intentionally expose any individual to a chemical known to the state of California to cause cancer, birth defects or reproductive toxicity without first giving clear and reasonable warning to such individuals of such an exposure". The following warnings apply:

1. **Toluene** containing products (**AC-C, AC-J, AM-J, AN-C**):
   WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
2. **Methylene Chloride (AB-K, AG-D) or Tetrachloroethylene (AB-K, AK-B)** containing products:
   WARNING: This product contains a chemical known to the State of California to cause cancer.

SECTION XV–OZONE DEPLETION IN THE UPPER ATMOSPHERE

None of the products on this MSDS contains upper atmosphere ozone depleting substances.