

## SAFETY DATA SHEET

### Section 1: IDENTIFICATION

<b>Product Name:</b>	<b>MATCH</b>
<b>Design Code:</b>	A7814K
<b>Recommended Use:</b>	<b>Insecticide</b>
<b>Company Details:</b>	<b>Syngenta Crop Protection Limited</b>
<b>Address:</b>	<b>Tower II, Level 7, 110 Symonds Street Private Bag 92618, Symonds Street AUCKLAND NEW ZEALAND</b>
<b>Telephone number:</b>	<b>(weekdays) 09 306 1500</b>
<b>Emergency Telephone number:</b>	<b>(24 Hours) 0800 734 607</b>
<b>National Poisons &amp; Hazchem Information Centre :</b>	<b>0800 POISON (0800 764 766)</b>

### Section 2: HAZARDS IDENTIFICATION

<b>Hazard classification:</b>	3.1C, 6.1E, 6.3A, 6.4A, 6.9B, 9.1B, 9.2D
<b>Priority Identifier:</b>	WARNING KEEP OUT OF REACH OF CHILDREN
<b>Secondary Identifiers:</b>	3.1C = Flammable liquid and vapour 6.1E = May be harmful if swallowed, inhaled or absorbed through the skin. 6.3A = May cause skin irritation 6.4A = May cause eye irritation 6.9B = May cause organ damage from repeated oral exposure at high doses. 9.1B = Toxic to aquatic organisms. 9.2D = Harmful to the soil environment.

### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

<b>Mixture:</b>		
<b>Chemical Identity of ingredients:</b>		
Ingredient	CAS no.	Content (%w/w)
Lufenuron	103055-07-8	5
Solvent naphtha (petroleum), heavy arom.	64742-94-5	60-80
Cyclohexanone	108-94-1	20-30
Calcium bis (dodecylbenzenesulphonate), branched	70528-83-5	1-5
2-methylpropan-1-ol	78-83-1	1-5
other ingredients determined not to be hazardous	-	to 100%

### Section 4: FIRST AID MEASURES

<b>Description of First Aid measures:</b>	
<b>General Advice:</b>	For advice contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.
<b>If inhaled:</b>	Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a Doctor or the National Poisons Centre immediately.

<b>In case of skin contact:</b>	Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a doctor. Wash contaminated clothing before re-use.
<b>In case of eye contact:</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses (if present). Immediate medical attention is required.
<b>If swallowed:</b>	If swallowed seek medical advice immediately and show the container or label. DO NOT induce vomiting.
<b>Important symptoms and effects, both acute and delayed:</b>	
Symptoms:	Aspiration may cause pulmonary oedema and pneumonitis.
<b>Indication of any immediate medical attention and special treatment needed:</b>	
Treatment:	There is no specific antidote available. Treat symptomatically. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

## Section 5: FIRE-FIGHTING MEASURES

<b>Extinguishing media:</b>	
<b>Suitable extinguishing media:</b>	Small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Large Fires: Alcohol resistant foam or water spray.
<b>Unsuitable extinguishing media:</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Special hazards arising from the substance or mixture:</b>	
<b>Specific hazards during fire-fighting:</b>	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10) Exposure to decomposition products may be a hazard to health. Flash back possible over considerable distance.
<b>Advice for firefighters:</b>	
<b>Special protective equipment for firefighters:</b>	Wear full protective clothing and self-contained breathing apparatus.
<b>Further information:</b>	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

## Section 6: ACCIDENTIAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	
	Refer to protective measures listed in Sections 7 and 8. Keep people away from and upwind of spill/leak. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition. Pay attention to flashback.
<b>Environmental Precautions:</b>	
	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

**Methods and material for containment and cleaning up:**

Contain spillage, and then collect with non-combustible absorbent material, (eg, sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local regulations (see section 13).

If the product contaminates rivers and lakes or drains inform respective authorities.

**Reference to other sections:**

Refer to disposal considerations listed in Section 13.  
Refer to protective measures listed in sections 7 and 8.

## Section 7: HANDLING AND STORAGE

**Precautions for Safe handling:**

**Advice on safe handling:**

Avoid contact with skin and eyes.  
When using do not eat, drink or smoke.  
Use only in an area containing flame proof equipment.  
Take precautionary measures against static discharges.  
For personal protection see section 8.

**Conditions for safe storage, including any incompatibilities:**

**Requirements for storage areas and containers:**

Keep containers tightly closed in a dry, cool and well-ventilated place.  
Keep out of reach of children.  
Keep away from combustible material.  
Keep in an area equipped with sprinklers.  
Keep away from food, drink and animal feeding stuffs.  
No smoking.

**Specific end use(s)**

**Specific use(s)**

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

## Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

**Control Parameters**

**Occupational Exposure Limits:**

Components	CAS No	Exposure limit	Type of exposure limit	Source
Lufenuron	103055-07-8	5 mg/m <sup>3</sup>	8 h TWA	Syngenta
Cyclohexanone	108-94-1	25 ppm, 100 mg/m <sup>3</sup> (skin)	TWA	WES
2-methylpropan-1-ol	78-83-1	50 ppm 152 mg/m <sup>3</sup>	TWA STEL	WES WES

**Exposure controls**

**Engineering measures:**

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.  
The extent of these protection measures depends on the actual risks in use.  
If airborne dust is generated, use local exhaust ventilation controls.  
Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.  
Where necessary, seek additional occupational hygiene advice.

**Personal Protective Protection:**

**Eye protection:** If eye contact is possible, use tight-fitting chemical safety goggles and a face shield.

**Hand protection:**

**Material:** Waterproof gloves, such as nitrile rubber  
**Break through time:** >480 min  
**Glove thickness:** 0.5 mm

**Remarks:** Chemical resistant gloves should be used.  
Gloves should be certified to an appropriate standard.  
The breakthrough time of gloves varies according to the thickness, material and the manufacturer.  
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

**Skin and body protection:**

Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material.  
Wash with soap and water after removing protective clothing.  
Decontaminate clothing before re-use or use disposable equipment (suits, aprons, sleeves, boots, etc).  
Wear as appropriate:  
Impervious protective suit.

**Respiratory protection:**

A combination gas, vapour and particulate respirator may be necessary until effective technical measures are installed.  
Protection provided by air-purifying respirators is limited.  
Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

**Protective measures:**

The use technical measures should always have priority over the use of personal protective equipment.  
When selecting personal protective equipment, seek appropriate professional advice.  
Personal protective equipment should be certified to appropriate standards.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties:**

<b>Appearance:</b>	Liquid
<b>Colour:</b>	Light yellow to brownish
<b>Odour:</b>	aromatic
<b>Odour threshold:</b>	No data
<b>pH value</b>	3-7, concentration: 1% w/v
<b>Melting point / freezing point:</b>	No data
<b>Initial boiling point and boiling range:</b>	No data
<b>Flash point:</b>	51°C at 763 mmHG
<b>Flammability:</b>	No data
<b>Upper / lower flammability / explosive limits:</b>	No data
<b>Vapour pressure:</b>	No data
<b>Vapour Density:</b>	No data
<b>Density:</b>	0.934 g/cm <sup>3</sup> (25°C)
<b>Solubility:</b>	No data
<b>Partition co-efficient: n-octanol / water:</b>	No data
<b>Autoignition temperature</b>	440°C
<b>Decomposition temperature:</b>	No data
<b>Dynamic viscosity:</b>	2.85 mPa.s (20°C)

<b>Explosive properties:</b>	1.96 mPa.s (40°C)
<b>Oxidising properties:</b>	Not explosive
<b>Surface tension:</b>	29.1 mN/m at 20°C

## Section 10: STABILITY AND REACTIVITY

<b>Reactivity:</b>	No information available
<b>Chemical Stability:</b>	No information available
<b>Possibility of Hazardous Reactions:</b>	None known. Hazardous polymerisation does not occur.
<b>Conditions to Avoid</b>	No decomposition if used as directed.
<b>Incompatible Materials:</b>	No information available
<b>Hazardous Decomposition Products:</b>	Combustion or thermal decomposition will evolve toxic and irritant vapours.

## Section 11: TOXICOLOGICAL INFORMATION

<b>HSNO Classifications:</b>
6.1E = May be harmful if swallowed, inhaled or absorbed through the skin.
6.3A = May cause skin irritation
6.4A = May cause eye irritation
6.9B = May cause organ damage from repeated oral exposure at high doses.

<b>Acute toxicity (similar composition)</b>	
Swallowed:	LD <sub>50</sub> >3000 mg/kg (rat)
Dermal absorption:	LD <sub>50</sub> >4000 mg/kg (rat)
Inhaled:	LC <sub>50</sub> (4 h) >5.3 mg/L (rat)
Aspiration hazard:	<b>Not classified</b>
Respiratory irritation:	<b>Not classified</b>
Skin corrosion / irritation:	<b>IRRITANT</b> (rabbit)
Eye damage / irritation:	<b>IRRITANT</b> (rabbit)
Respiratory or Skin Sensitisation:	<b>NOT A SENSITISER</b> (skin - guinea pig / HSNO Classification)
<b>Chronic / Long Term Effects (active ingredient)</b>	
Germ cell mutagenicity:	Animal testing did not show any mutagenic effects.
Carcinogenicity:	No evidence of carcinogenicity in animal studies.
Reproductive toxicity:	No toxicity to reproduction.
Specific Organ toxicity:	<i>Single exposure:</i> The substance or mixture is not classified as specific target organ toxicant, single exposure. <i>Repeated exposure:</i> The substance or mixture is classified as specific target organ toxicant, repeated exposure, Class 6.9B
Narcotic Effects:	Not classified

## Section 12: ECOLOGICAL INFORMATION

<b>HSNO Classifications:</b>	
9.1B =	Toxic to aquatic organisms.
9.2D =	Harmful to the soil environment.
<b>Ecotoxicity Effects – aquatic (product)</b>	
<b>Acute toxicity to fish:</b>	LC <sub>50</sub> (96 h) >20 mg/L ( <i>Lepomis macrochirus</i> (bluegill)) LC <sub>50</sub> (96 h) >73 mg/L (rainbow trout) LC <sub>50</sub> (96 h) >63 mg/L (carp)
<b>Toxicity to daphnia and other aquatic invertebrates:</b>	EC <sub>50</sub> (48h) = 0.0072 mg/L ( <i>Daphnia magna</i> (water flea))
<b>Toxicity to algae:</b>	E <sub>r</sub> C <sub>50</sub> (72 h) = >30 mg/L ( <i>Pseudokirchneriella subcapitata</i> [green algae]) E <sub>b</sub> C <sub>50</sub> (72 h) = 2.63 mg/L ( <i>Pseudokirchneriella subcapitata</i> [green algae])
<b>Ecotoxicity Effects – terrestrial (active ingredient unless otherwise specified)</b>	
<b>Toxicity to Birds:</b>	LD <sub>50</sub> = >2000 mg/kg (bobwhite quail and mallard duck)
<b>Toxicity to soil dwelling organisms:</b>	No adverse effects on earthworms
<b>Toxicity to Bees:</b>	LC <sub>50</sub> (oral) = >197 µg/bee LC <sub>50</sub> (contact) = >200 µg/bee
<b>Persistence and degradability:</b>	
<b>Biodegradability:</b>	Not biodegradable
<b>Stability in water:</b>	Degradation half-life: 112 d Not persistent in water.
<b>Bioaccumulative potential:</b>	
<b>Bioaccumulation:</b>	Lufenuron bioaccumulates.
<b>Mobility in soil:</b>	
<b>Distribution among environmental compartments:</b>	Immobile
<b>Stability in soil:</b>	Percentage dissipation: 50% (DT <sub>50</sub> : 28 d) Not persistent in soil.
<b>Other adverse effects:</b>	
<b>Results of PBT and vPvB assessment (product):</b>	This substance contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## Section 13: DISPOSAL CONSIDERATIONS

<b>Product Disposal:</b>	DO NOT contaminate ponds, waterways or ditches with chemical or used containers. DO NOT dispose of waste into sewer. Dispose of this product only by using according to the label. Otherwise, dispose of waste at an approved landfill or other approved facility that will ensure the substance does not exceed the tolerable exposure limit (TEL) or environmental exposure limit (EEL), where relevant, or will treat the substance so that it is rendered no longer hazardous.
<b>Container Disposal:</b>	Ensure the container is empty. Triple rinse empty container and add rinsate to the spray tank. Recycle empty container through Agrecovery (0800 247 326, www.agrecovery.co.nz). Otherwise crush and bury in a suitable landfill. DO NOT reuse this container for any other purpose.

## Section 14: TRANSPORT INFORMATION

<b>Rail / Road (NZS 5433)</b>	UN-No: 1224 Class: 3 Packing Group: III Proper shipping name: KETONES, LIQUID, N.O.S. (alkyl(C3-C5) benzenes, cyclohexanone and lufenuron)
<b>Sea (IMDG-Code)</b>	UN-No: 1224 Class: 3 Packing Group: III Proper shipping name: KETONES, LIQUID, N.O.S. (alkyl(C3-C5) benzenes, cyclohexanone and lufenuron)  Ems Code: F-A, S-D MARINE POLLUTANT: Yes
<b>Air (IATA)</b>	UN-No: 1224 Class: 3 Packing Group: III Proper shipping name: KETONES, LIQUID, N.O.S. (alkyl(C3-C5) benzenes, cyclohexanone and lufenuron)  Packing instruction: 355 (passenger aircraft) 366 (cargo aircraft)  Packing instruction (LQ): Y344

## Section 15: REGULATORY INFORMATION

<b>HSNO Approval Number:</b>	HSR000407
<b>Tolerable Exposure Limit or Environmental Exposure Limit:</b>	None set at this time.
<b>Required Regulatory Controls:</b>	
<b>Certified handler:</b>	No
<b>Tracking:</b>	No
<b>Record Keeping:</b>	No
<b>ACVM Registration:</b>	P 4422
<b>ACVM Controls:</b>	See <a href="http://www.foodsafety.govt.nz/industry/acvm">www.foodsafety.govt.nz/industry/acvm</a> for registration conditions.
<b>International Agreements related to the substance (eg, Montreal Protocol, Stockholm Convention or Rotterdam Convention):</b>	

## Section 16: OTHER INFORMATION

<b>Date of SDS Preparation / Review:</b>	9 June 2020
<b>Version number of SDS:</b>	6
<b>Key / Legend to abbreviations and acronyms used:</b>	
AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations;	MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level;

DIN - Standard of the German Institute for Standardisation;  
DSL - Domestic Substances List (Canada);  
ECx - Concentration associated with x% response;  
ELx - Loading rate associated with x% response;  
EmS - Emergency Schedule;  
ENCS - Existing and New Chemical Substances (Japan);  
ErCx - Concentration associated with x% growth rate response;  
ERG - Emergency Response Guide;  
GHS - Globally Harmonized System;  
GLP - Good Laboratory Practice;  
IARC - International Agency for Research on Cancer;  
IATA - International Air Transport Association;  
IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;  
IC50 - Half maximal inhibitory concentration;  
ICAO - International Civil Aviation Organization;  
IECSC - Inventory of Existing Chemical Substances in China;  
IMDG - International Maritime Dangerous Goods;  
IMO - International Maritime Organization;  
ISHL - Industrial Safety and Health Law (Japan);  
ISO - International Organisation for Standardization;  
KECI - Korea Existing Chemicals Inventory;  
LC50 - Lethal Concentration to 50 % of a test population;  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose);

NOELR - No Observable Effect Loading Rate;  
NOM - Official Mexican Norm;  
NTP - National Toxicology Program;  
NZIoC - New Zealand Inventory of Chemicals;  
OECD - Organization for Economic Co-operation and Development;  
OPPTS - Office of Chemical Safety and Pollution Prevention;  
PBT - Persistent, Bioaccumulative and Toxic substance;  
PICCS - Philippines Inventory of Chemicals and Chemical Substances;  
(Q)SAR - (Quantitative) Structure Activity Relationship;  
REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals;  
SADT - Self-Accelerating Decomposition Temperature;  
SDS - Safety Data Sheet;  
TCSI - Taiwan Chemical Substance Inventory;  
TDG - Transportation of Dangerous Goods;  
TSCA - Toxic Substances Control Act (United States);  
UN - United Nations;  
UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods;  
vPvB - Very Persistent and Very Bioaccumulative;  
WES - Workplace Exposure Standard (Worksafe NZ)  
WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the test.

This version replaces all previous versions.

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